

SPACE SAVING FIN DEPLOYMENT SYSTEM FOR MUNITIONS AND MISSILES

Abstract

A fin deployment system for missiles and munitions that deploys and activates straight flat fins for roll control authority. The fin deployment system employs numerous design features, among which are the following: A wrap-around fin concept generates space-savings within a projectile body whereby the fins are arranged in a wrapped configuration around a boomtail structure. The fins may be constructed of a super-elastic material; the system eliminates mechanical means of deploying the wrapped fins, eliminating the need for springs to deploy the fins. The fin deployment achieves substantial space savings for increasing the onboard towing capacity of electronic packaging or lethality in the missiles and munitions systems, while at the same time providing a good roll control authority during flight by enabling a straight fin deployment resulting from the use of super-elastic materials.